Studies of 2-Oxazolidinones. (II) : Products of the Pyrolysis of Some 2-Oxazolidinones

AUTHOR(S):

Oda, Ryohei; Miyanoki, Masahiko; Okano, Masaya

Studies of 2-Oxazolidinones. (I)

A Convenient Synthesis of 3-Substituted 2-Oxazolidinones

Ryohei ODA, Masahiko MIYANOKI and Masaya OKANO

Bulletin of the Chemical Society of Japan. **35,** 1309 (1962)

A convenient synthesis of 3-substitued 2-oxazolidinones starting from three components—aliphatic or aromatic amines, phosgene and ethylene chlorohydrin—has been developed.

Studies of 2-Oxazolidinones. (II)

Products of the Pyrolysis of Some 2-Oxazolidinones

Ryohei ODA, Masahiko MIYANOKI and Masaya OKANO

Bulletin of the Chemical Society of Japan, **35,** 1910 (1962)

The products obtained by the pyrolytic decarboxylation of 2-oxazolidinones have been investigated, chiefly by infrared analysis. In the case of 2-oxazolidinone, the products are 1-(β-hydroxyethyl)-2-imidazolidinone, 1-[β-(1-azilidinyl)-ethyl]-2-imidazolidinone (somewhat uncertain), and poly (ethylenimine) having a 2-imidazolidinone ring at the chain end. On the other hand, the only products from 3-*p*-chlorophenyl- and 3-*p*-nitrophenyl-2-oxazolidinone are believed to be low molecular weight polymers of the corresponding ethylenimines. From 3-acetyl-2-oxazolidinone, a considerable amount of 2-methyl-2-oxazoline, which seems to arise from the rearrangement of N-acetylethylenimine, is isolated, in addition to the corresponding poly (ethylenimine). On the basis of the products obtained, a possible mechanism for the pyrolysis has been proposed.

Studies of 2-Oxazolidinones. (III)

Kinetics of the Pyrolytic Decarboxylation of 2-Oxazolidinones

Ryohei ODA, Masahiko MIYANOKI and Masaya OKANO

Bulletin of the Chemical Society of Japan, **35,** 1915 (1962)

The kinetics of the pyrolytic decarboxylation of 3-substituted 2-oxazolidinones have been studied and the following results were obtained. (1) This decomposition is an autocatalytic reaction, in which the amined formed acts as a catalyst.